Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

Motiva Enterprises LLC
Motiva Enterprises LLC - Convent Refinery
Convent, St. James **Parish, Louisiana**
Agency Interest Number: 2719
Activity Number: PER20040004
Proposed Permit Number: 2560-00001-V6

I. APPLICANT

Company:
Motiva Enterprises LLC - Convent Refinery
PO Box 37
Convent, Louisiana 70723-0037

Facility:
Motiva Enterprises LLC
Hwys 44 & 70
Convent, St. James Parish, Louisiana
Approximate UTM coordinates are 702.600 km East and 3332.600 km North, Zone 15

II. FACILITY AND CURRENT PERMIT STATUS

Convent Refinery is a modern oil refinery. The refinery employs extensive emission control measures such as multiple internal and external FCCU catalyst cyclones, primary and secondary tank seals, low nitrogen oxide (NO_x) burners, fuel gas and LPG scrubbers, sulfur recovery units with tail gas treating facilities, and floating roofs on crude and light product tanks. Other control measures are closed flare systems for vapor blow down and emergency relief, smokeless flares, extensive use of pump and compressor mechanical seals, closed loop sampling stations, closed vapor control systems on tank truck and tank car loading racks and individual unit slop oil collection sumps. Recent additions to emissions controls include a flare gas recovery system, which sweetens and routes the gas to combustion devices (heaters, reboilers, etc.) and the FCCU regenerator wet gas scrubber.

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Motiva Enterprises LLC - Convent Refinery is a designated Part 70 source. Several Part 70 permits have been issued to the operating units within the facility. These include:

Permit No.	Unit or Source	Date Issued
2560-00001-V5	Entire Facility	9/24/2004*
3061-V0	Hydrotreating Unit	11/20/2007

* The facility submitted timely renewal application.

III. PROPOSED PROJECT/PERMIT INFORMATION

Application

A permit application was submitted on February 9, 2004 requesting a Part 70 operating permit renewal. The application was subsequently revised on September 29, 2006. Additional information dated February 27, May 12 and 14, June 5 and as of June 19, 2008 was also received.

Project

The facility has installed and is operating the Ultra Low Sulfur Diesel (ULSD) project under Permit 2560-00001-V5. The estimated emissions from the ULSD and Turnaround (TA) project are being updated based on the performance and the continuous emission monitoring data. The changes in emissions are shown below in tons per year:

Pollutant	Baseline Actual 2/2002-2/2004	Proposed	Change*
PM/PM_{10}	235.24	249.23	+ 13.99
SO_2	7296.00	298.58	-6997.42
NO_X	589.60	628.44	+ 38.84
CO	514.20	613.23	+ 99.03
VOC	11.54	50.87	+ 39.33

* The change is due to a retroactive PSD netting analysis conducted for the ULSD project as referenced above

The project related retroactive emissions increases consists of emissions increases from both new (added with the project at that time) and existing sources along with emission decreases due to Low NOx burners installed on Boiler 31F-801, 31F-802, and 31F-803; the installation of a wet gas scrubber on the FCCU regenerator exhaust; and physical changes to the FCCU to reduce NOx emissions from the regenerator. The overall emissions increase from both the projects after the reconciliation as referenced above is less than the significance level for all criteria pollutants; therefore, PSD review is not required.

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Motiva is also proposing to incorporate additional changes to the facility as follows:

1. Update the tanks emission cap based on current speciation, vapor pressures, tank fittings, and materials stored to have operational flexibility;
2. Update equipment leak fugitive emissions based on better TAP speciation, component counts, and consolidating all fugitive emissions under one emission point, GEN PLANT;
3. Create three new emission caps – EQUIP, FCCU HEATERS, and HTU 2-3 HEATERS;
4. Remove sulfur truck loading and cooling towers 1, 2, 3, and 5 from the emission point, GEN PLANT;
5. Remove the boilers emission cap, BOILERS, based on the changes previously approved under an Authorization to Construct/Approval to Operate dated February 3, 2004 (Consent Decree);
6. Remove export gas system emissions as the system has been removed, along with MTBE/TAME emissions and H-Oil Atm. Heater, Emission Point 70H-301. These have been mothballed;
7. Increase the annual average heat input to the H-Oil Vacuum Heater, Emission Point 70H-302, by 5 MM BTU/hr;
8. Update the equipment stack parameters based on new information, EIQs;
9. Update the current insignificant activities list; and
10. Incorporate existing emissions from tank cleaning, FCCU catalyst handling, CRU Regeneration, and HGU Startup Flaring.

Increase in emissions is due to the inclusion of tank cleaning (VOC emissions), FCCU catalyst handling, CRU Regeneration, and HGU Startup Flaring activities. Startup/Shutdown (SU/SD) and tank cleaning emissions are a part of operating stationary sources and should be regulated and appropriately controlled. Many rules and regulations acknowledge and recognize that SU/SD emissions are exempt from certain technology based limitations and must be controlled with good air pollution control practices to minimize these emissions during such periods. Regulations like 40 CFR 60.8(c), 40 CFR 63.6(e), 40 CFR 63.10(e)(3)(ii) do give a general guidance for controlling and minimizing the SU/SD emissions. Permitting SU/SD and tank cleaning emissions will be beneficial to air quality and will greatly assist in air quality planning purposes by requiring that SU/SD and tank cleaning emissions be clearly identified, quantified, and limited where necessary through out the facility. The SU/SD and tank cleaning emissions are not subject to New Source Review as they are existing emissions and no new modifications (new source or change in the method of operation) are triggering an increase in the associated emissions. VOC emissions are increasing due to the inclusion of tank cleaning; these are existing emissions, which were authorized under variances as and when required during the year.

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Proposed Permit

Permit 2560-00001-V6 will be the Part 70 operating permit renewal of Part 70 operating permit 2560-00001-V5 for Motiva Enterprises LLC, Convent Refinery.

Permitted Air Emissions

Estimated emissions from the facility in tons per year are as follows:

Pollutant	Permitted	Proposed	Change
PM/PM_{10}	487.87	501.91	+ 14.04
SO_2	1391.33	1208.13	- 183.20
NO_X	2592.81	2267.24	- 325.57
CO	1833.38	1512.50	- 320.88
VOC	2029.38	2193.33	+ 163.95
H_2SO_4 Mist	259.80	259.80	-

IV REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

Applicability and Exemptions of Selected Subject Items

For the applicability and exemptions of selected item at the facility, refer to Section X - Applicable Louisiana and Federal Air Quality Requirements, and Section XI - Explanation for Exemption Status or Non-Applicability of a Source, of the proposed permit.

Prevention of Significant Deterioration/Nonattainment Review

New Source (PSD /non-attainment) review is not required. The increase in emissions from the facility is due to inclusion of startup/shutdown (SU/SD), tank cleaning (VOC emissions), FCCU catalyst handling, CRU Regeneration, and HGU Startup Flaring activities. These are existing emissions and no new project or modification is being undertaken at the facility.

As referenced above the ULSD project permitted earlier is being reconciled based on the performance and the continuous emission monitoring data. The changes did not warrant a change in the existing BACT (For details refer to Permits 2560-00001-V5 and 3016-V0).

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Streamlined Equipment Leak Monitoring Program

It is required that the refinery comply with the streamlined equipment leak and monitoring program. Monitoring with the streamlined program shall serve to comply with each of the fugitive emission monitoring programs being streamlined.

Unit or Plant Site	Programs Streamlined	Stream Applicability	Overall Most Stringent Program
ALKY (Equipment not in HAP service)	LAC 33:III.Chapter 21	10% VOC	LAC 33:III2121
ALKY (Equipment in HAP service)	NSPS Subpart GGG* LAC 33:III.Chapter 21 NESHAP Subpart CC	10% VOC 10% VOC 5% VOHAP	NESHAP Subpart CC
ARU 1-4	LAC 33:III.Chapter 21	10% VOC	LAC 33:III.2121
Boilers	NSPS Subpart GGG* LAC 33:III.Chapter 21	10% VOC 10% VOC	NSPS Subpart GGG
CRU	LAC 33:III.Chapter 21 LA Refinery MACT NESHAP Subpart CC	10% VOC 5% Air Toxics (Class I & II) 5% VOHAP	Louisiana Refinery MACT
CRU LR	LAC Chapter 21 LA Refinery MACT NESHAP Subpart CC	10% VOC 5% Air Toxics (Class I & II) 5% VOHAP	Louisiana Refinery MACT
Dimersol (Equipment not is HAP service)	NSPS Subpart GGG* LAC 33:III.Chapter 21	10% VOC 10% VOC	NSPS Subpart GGG
Dimersol (Equipment in HAP service)	NSPS Subpart GGG* LAC 33:III.Chapter 21 NESHAP Subpart CC	10% VOC 10% VOC 5% VOHAP	NESHAP Subpart CC
Docks	NSPS Subpart GGG* LAC 33:III.Chapter 21 LA Refinery MACT NESHAP Subpart CC	10% VOC 10% VOC 5% Air Toxics (Class I & II) 5% VOHAP	Louisiana Refinery MACT
East Tank Farm	NSPS Subpart GGG* LAC 33:III.Chapter 21 LA Refinery MACT NESHAP Subpart CC	10% VOC 10% VOC 5% Air Toxics (Class I & II) 5% VOHAP	Louisiana Refinery MACT
FCCU	NSPS Subpart GGG* LAC 33:III.Chapter 21 LA Refinery MACT NESHAP Subpart CC	10% VOC 10% VOC 5% Air Toxics (Class I & II) 5% VOHAP	Louisiana Refinery MACT
Flare Gas Recovery System	NSPS Subpart GGG* LAC 33:III.Chapter 21 LA Refinery MACT	10% VOC 10% VOC 5% Air Toxics	Louisiana Refinery MACT

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Unit or Plant Site	Programs Streamlined	Stream Applicability	Overall Most Stringent Program
	NESHAP Subpart CC	(Class I & II) 5% VOHAP	
HDS-1	NSPS Subpart GGG* LAC 33:III.Chapter 21 LA Refinery MACT NESHAP Subpart CC	10% VOC 10% VOC 5% Air Toxics (Class I & II) 5% VOHAP	Louisiana Refinery MACT
HGU	NSPS Subpart GGG* LAC 33:III.Chapter 21 LA Refinery MACT NESHAP Subpart CC	10% VOC 10% VOC 5% Air Toxics (Class I & II) 5% VOHAP	Louisiana Refinery MACT
H-Oil	NSPS Subpart GGG* LAC 33:III.Chapter 21 LA Refinery MACT NESHAP Subpart CC	10% VOC 10% VOC 5% Air Toxics (Class I & II) 5% VOHAP	Louisiana Refinery MACT
HTU-1, 2, and 3	NSPS Subpart GGG* LAC 33:III.Chapter 21 LA Refinery MACT NESHAP Subpart CC	10% VOC 10% VOC 5% Air Toxics (Class I & II) 5% VOHAP	Louisiana Refinery MACT
ISOM (Equipment not in HAP service)	NSPS Subpart GGG* LAC 33:III.Chapter 21	10% VOC 10% VOC	NSPS Subpart GGG
ISOM (Equipment not in HAP service	NSPS Subpart GGG* LAC 33:III.Chapter 21	10% VOC 10% VOC	NSPS Subpart GGG
ISOM (Equipment in HAP service)	NSPS Subpart GGG* LAC 33:III.Chapter 21 NESHAP Subpart CC	10% VOC 10% VOC 5% VOHAP	NESHAP Subpart CC
LPG Truck Rack	LAC 33:III.Chapter 21	10% VOC	LAC 33:III.2121
Plant 10	LAC Chapter 21	10% VOC	LAC 33:III.2121
Plant 21	LAC 33:III.Chapter 21 LA Refinery MACT NESHAP Subpart CC	10% VOC 5% Air Toxics (Class I & II) 5% VOHAP	Louisiana Refinery MACT
Pressure Storage Area	LAC 33:III.Chapter 21	10% VOC	LAC 33:III.2121
Rail Car Rack	NSPS Subpart GGG* LAC 33:III.Chapter 21	10% VOC 10% VOC	NSPS Subpart GGG*
TGTU 1-5	LAC 33:III.Chapter 21	10% VOC	LAC 33:III.2121
VPS-1 and 2	NSPS Subpart GGG* LAC 33:III.Chapter 21 LA Refinery MACT NESHAP Subpart CC	10% VOC 10% VOC 5% Air Toxics (Class I & II)	Louisiana Refinery MACT

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Unit or Plant Site	Programs Streamlined	Stream Applicability	Overall Most Stringent Program
		5% VOHAP	
West Tank Farm	NSPS Subpart GGG* LAC 33:III.Chapter 21 LA Refinery MACT NESHAP Subpart CC	10% VOC 10% VOC 5% Air Toxics (Class I & II) 5% VOHAP	Louisiana Refinery MACT

MACT Requirements

The applicable MACT requirements for the different sources at the facility are described in the Specific Requirements section of the proposed permit.

Air Quality Analysis

None

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

V. PERMIT SHIELD

None

VI. PERIODIC MONITORING

Periodic monitoring of leaks to comply with the LDAR program as per the streamlined requirements outlined in the appropriate regulations and referenced in Section IV of this document.

Other periodic monitoring requirements and the Consent Decree [A NSR Global Settlement (Civil Action No. H-01-0978) between USA EPA and Motiva Enterprises LLC date of entry August 21, 2001] requirements are included in the Specific Requirements section of the proposed permit.

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VII. GLOSSARY

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

Hydrogen Sulfide (H_2S) – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the reaction of acids on metallic sulfides, and is an important chemical reagent.

New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_X) – Compounds whose molecules consist of nitrogen and oxygen.

Organic Compound – Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

Part 70 Operating Permit – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: $\geq$ 10 tons per year of any toxic air pollutant; $\geq$ 25 tons of total toxic air pollutants; and $\geq$ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10} – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

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Sulfur Dioxide (SO_2) – An oxide of sulfur.

Sulfuric Acid (H_2SO_4) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.